

isc Silicon NPN Power Transistor
BU931
DESCRIPTION

- High Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

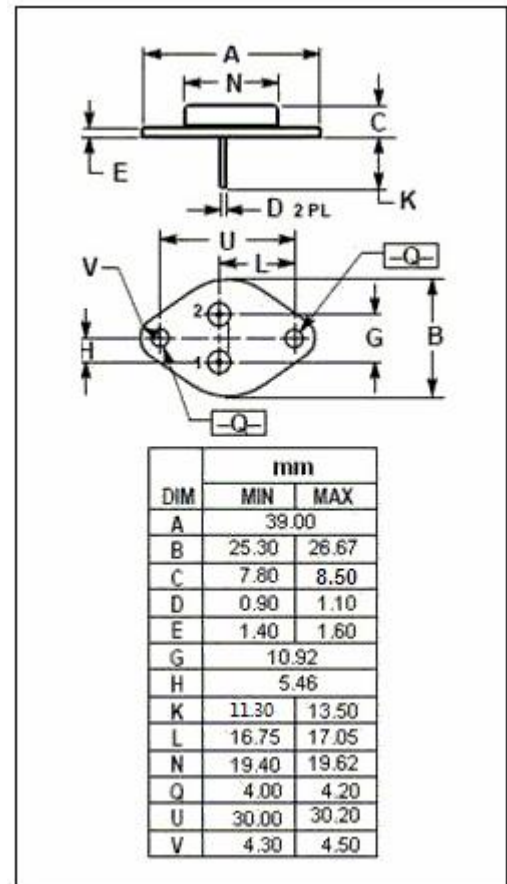
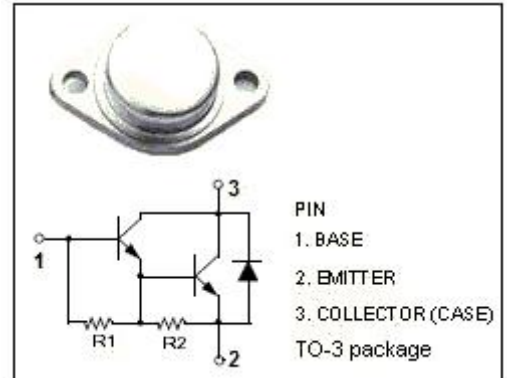
- High ruggedness electronic ignitions
- High voltage ignition coil driver

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

| SYMBOL | PARAMETER | VALUE | UNIT |
|------------------|--|---------|------|
| V _{CBO} | Collector-Base Voltage | 500 | V |
| V _{CEO} | Collector-Emitter Voltage | 400 | V |
| V _{EBO} | Emitter-Base Voltage | 5 | V |
| I _C | Collector Current | 15 | A |
| I _{CM} | Collector Current-peak | 30 | A |
| I _B | Base Current | 1 | A |
| I _{BM} | Base Current-peak | 5 | A |
| P _C | Collector Power Dissipation @T _C =25°C | 175 | W |
| T _J | Junction Temperature | 150 | °C |
| T _{stg} | Storage Temperature Range | -65~150 | °C |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------------|--------------------------------------|-----|------|
| R _{th j-c} | Thermal Resistance, Junction to Case | 1.0 | °C/W |



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ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|------------------------|---------------------------------|--|-----|------|------------|------|
| V _{CEO(SUS)} | Collector-Emitter Voltage | Sustaining I _C = 50mA; I _B = 0; | 400 | | | V |
| V _{CE(sat)-1} | Collector-Emitter Voltage | Saturation I _C = 7A; I _B = 70mA | | | 1.6 | V |
| V _{CE(sat)-2} | Collector-Emitter Voltage | Saturation I _C = 8 A; I _B = 100mA | | | 1.8 | V |
| V _{CE(sat)-3} | Collector-Emitter Voltage | Saturation I _C = 10 A; I _B = 250mA | | | 1.8 | V |
| V _{BE(sat)-1} | Base-Emitter Saturation Voltage | I _C = 7A; I _B = 70mA | | | 2.2 | V |
| V _{BE(sat)-2} | Base-Emitter Saturation Voltage | I _C = 8 A; I _B = 100mA | | | 2.4 | V |
| V _{BE(sat)-3} | Base-Emitter Saturation Voltage | I _C = 10A; I _B = 250mA | | | 2.5 | V |
| I _{CES} | Collector Cutoff Current | V _{CE} = 500V; V _{BE} = 0 V _{CE} = 500V; V _{BE} = 0; T _J = 125°C | | | 0.1 0.5 | mA |
| I _{CEO} | Collector Cutoff Current | V _{CE} = 450V; I _B = 0 V _{CE} = 450V; I _B = 0; T _J = 125°C | | | 0.1 0.5 | mA |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = 5V; I _C = 0 | | | 20 | mA |
| h _{FE} | DC Current Gain | I _C = 5A ; V _{CE} = 10V | 300 | | | |
| V _{ECF} | C-E Diode Forward Voltage | I _F = 10A | | | 2.5 | V |

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